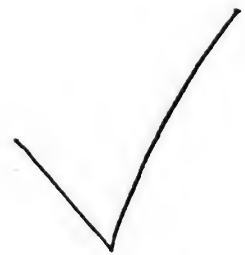


EXIDY, INC.

TV PINBALL

(MODEL TVPB)

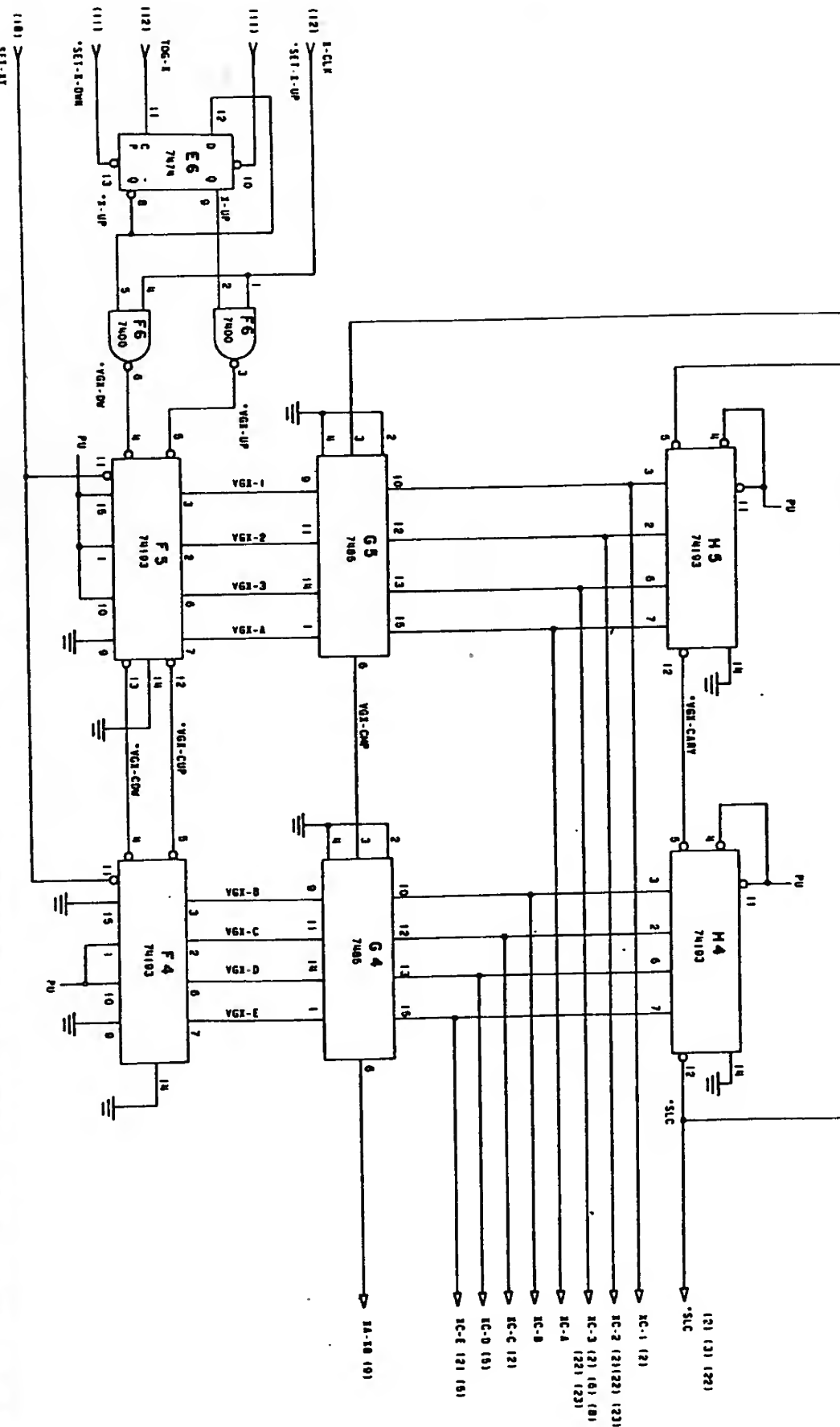


SCHEMATIC

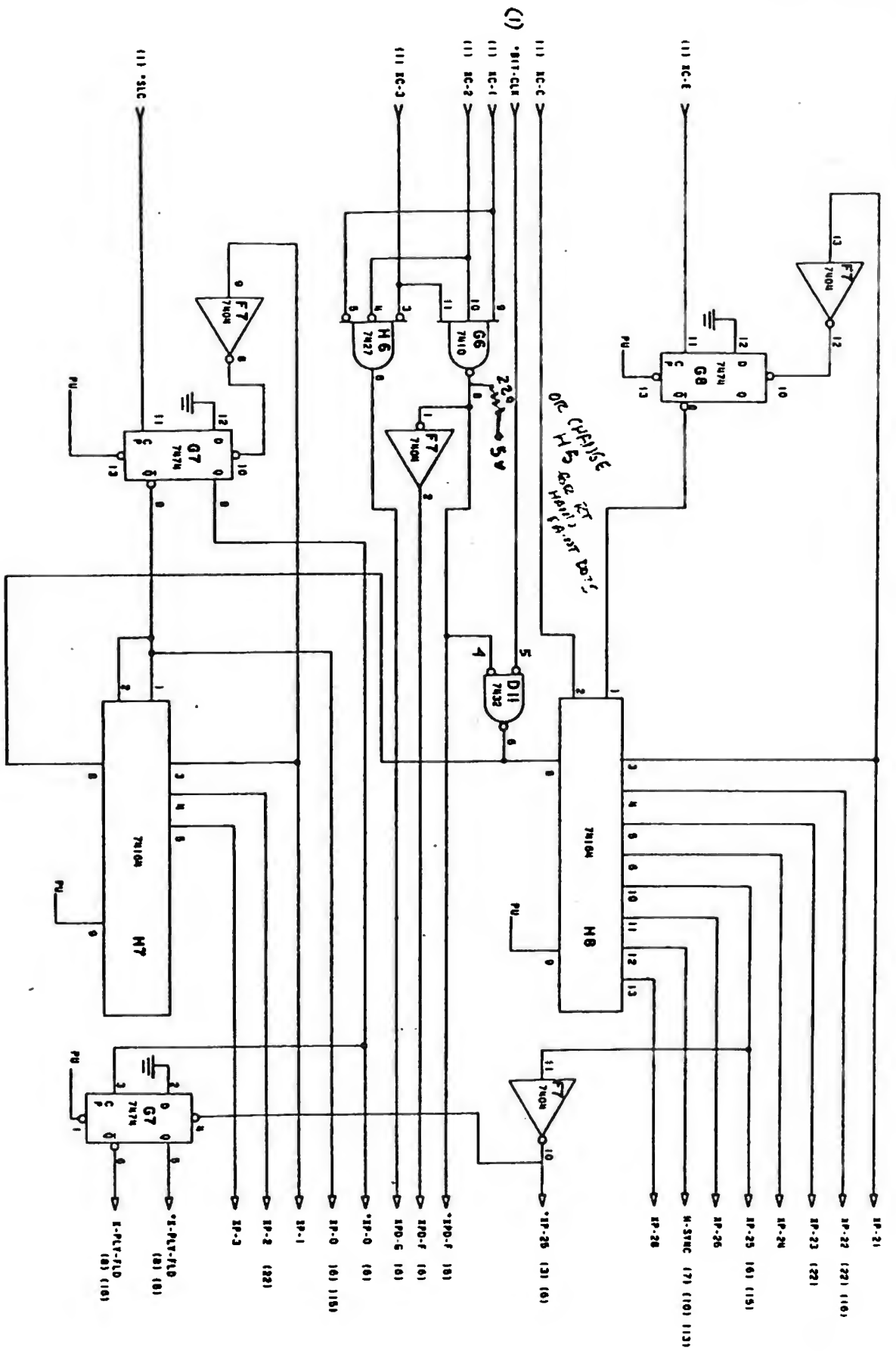
EXIDY, INC.

2599 Garcia Avenue, Mountain View, California 94043

(415) 968-7670



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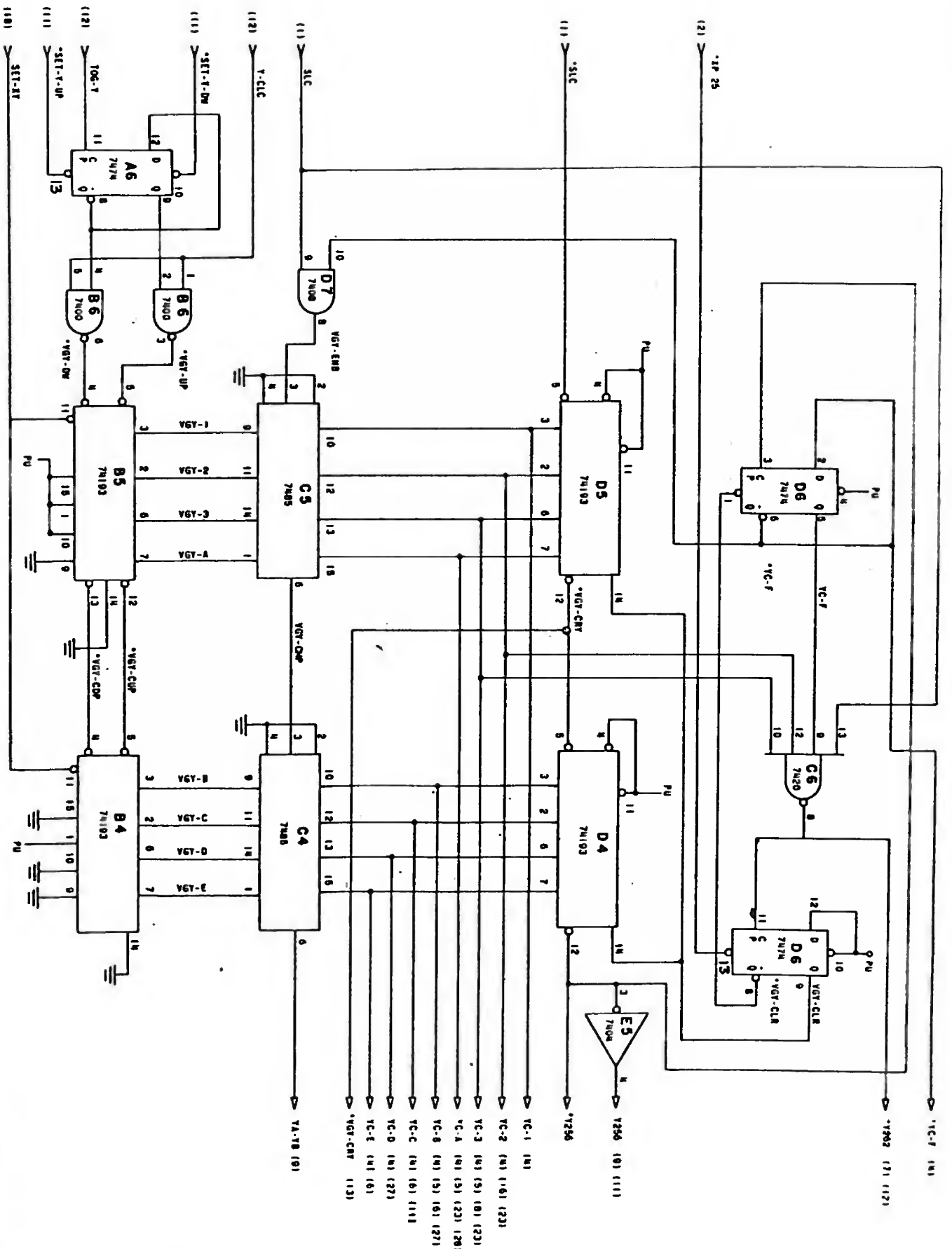
EXIDY, INC.

TV PINBALL

XP GENERATOR

PAGE

2



**EXIDY, INC.**

## TV PINBALL

# VECTOR GEN Y

PAGE

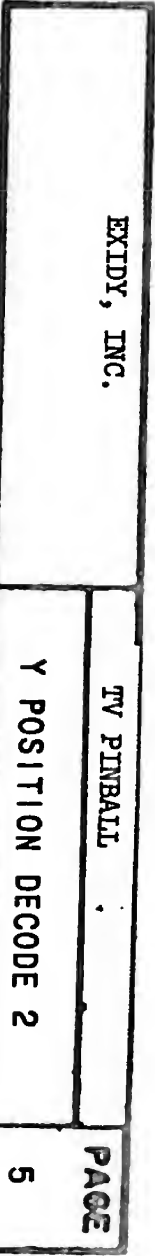
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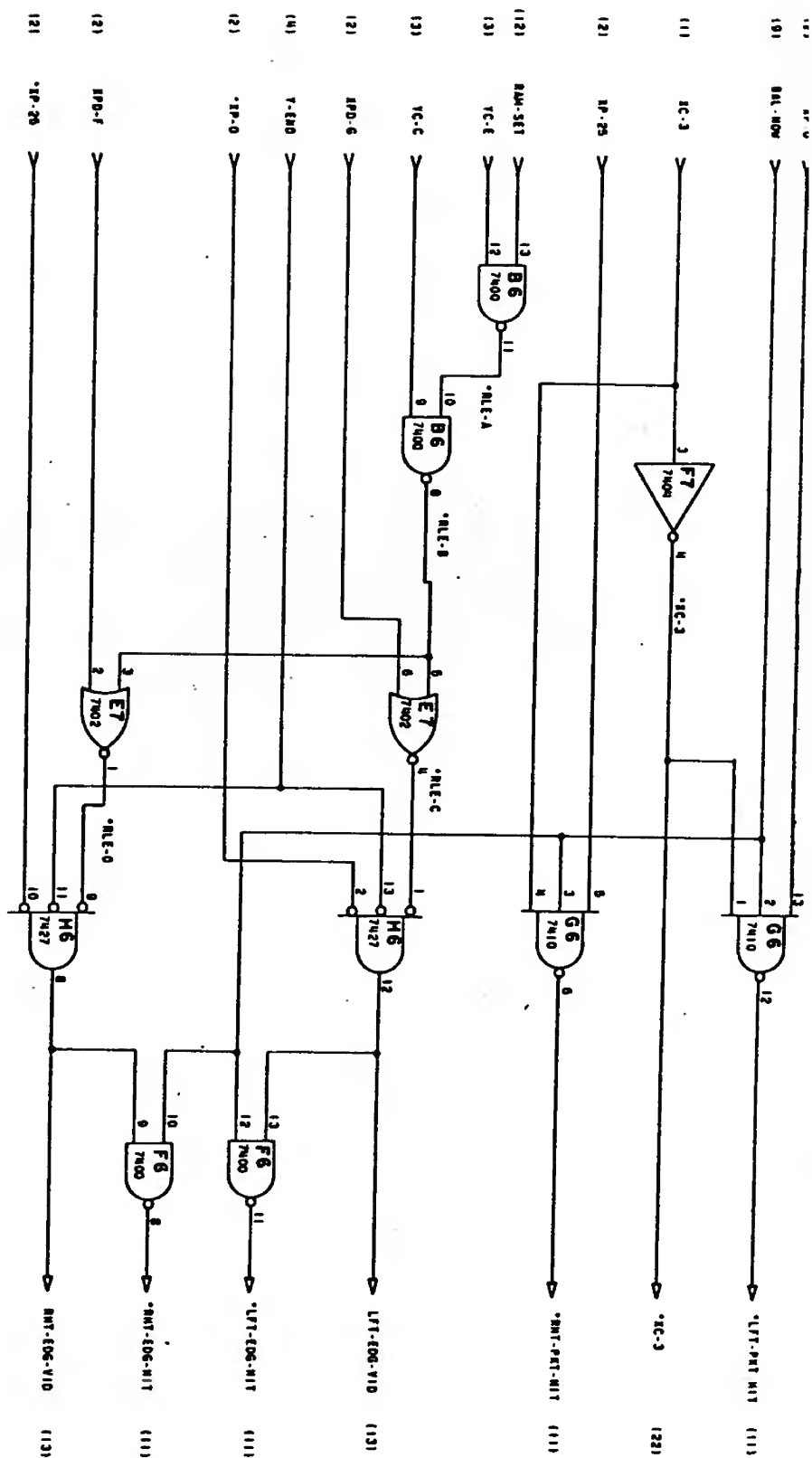


## TV PINBALL

Y POSITION DECODE !

PAGE 4





**EXIDY, INC.**



## BUMPER GENERATOR 2





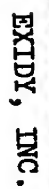


**TV PINBALL**

## BALL CONTROL

PAGE

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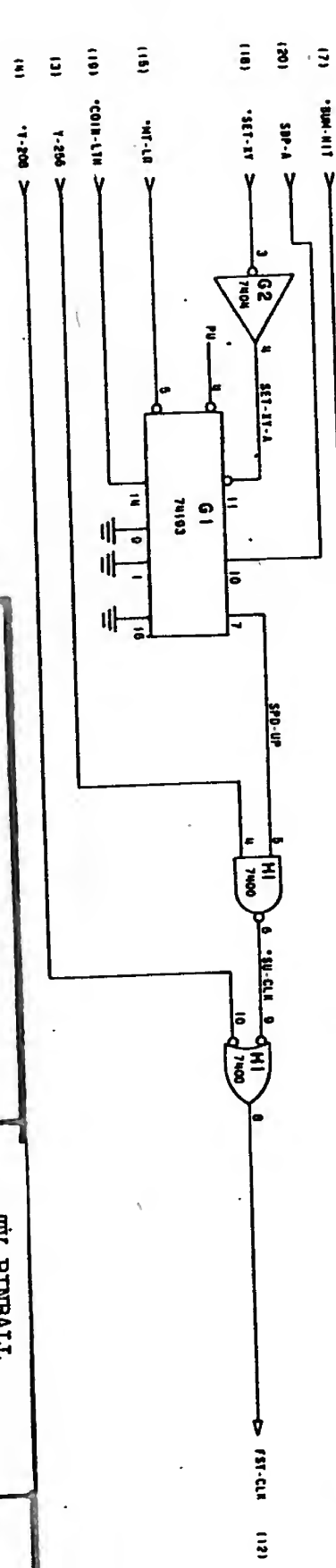


IV PINBAŪT

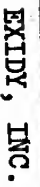
**PADDLE A/D**

PAR

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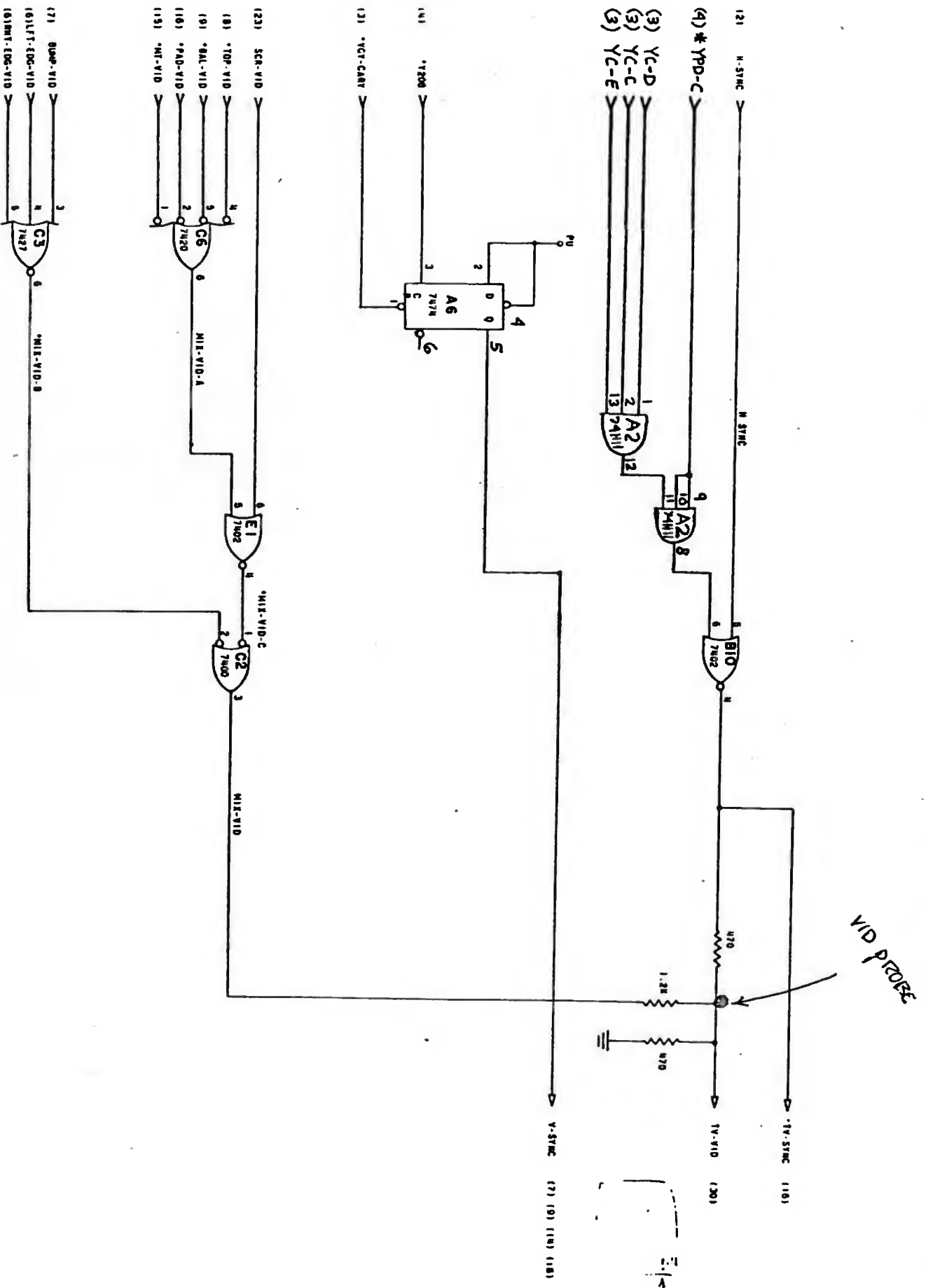


PAGE  
11



TV PINBALL

MODE CONTROL



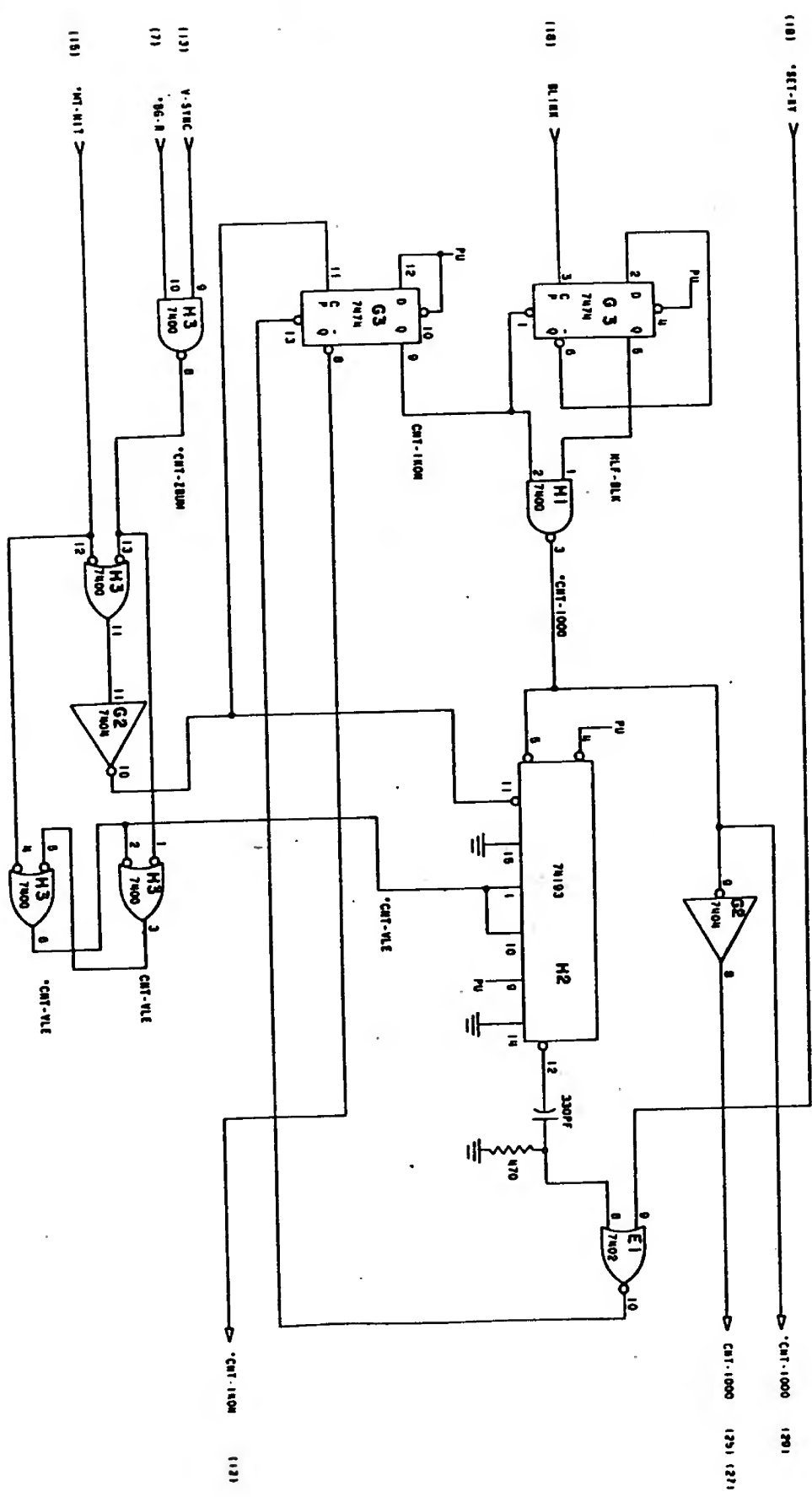
EXIDY, INC.

TV PINBALL

SYNC & VIDEO

PAGE

13



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TV PINBALL

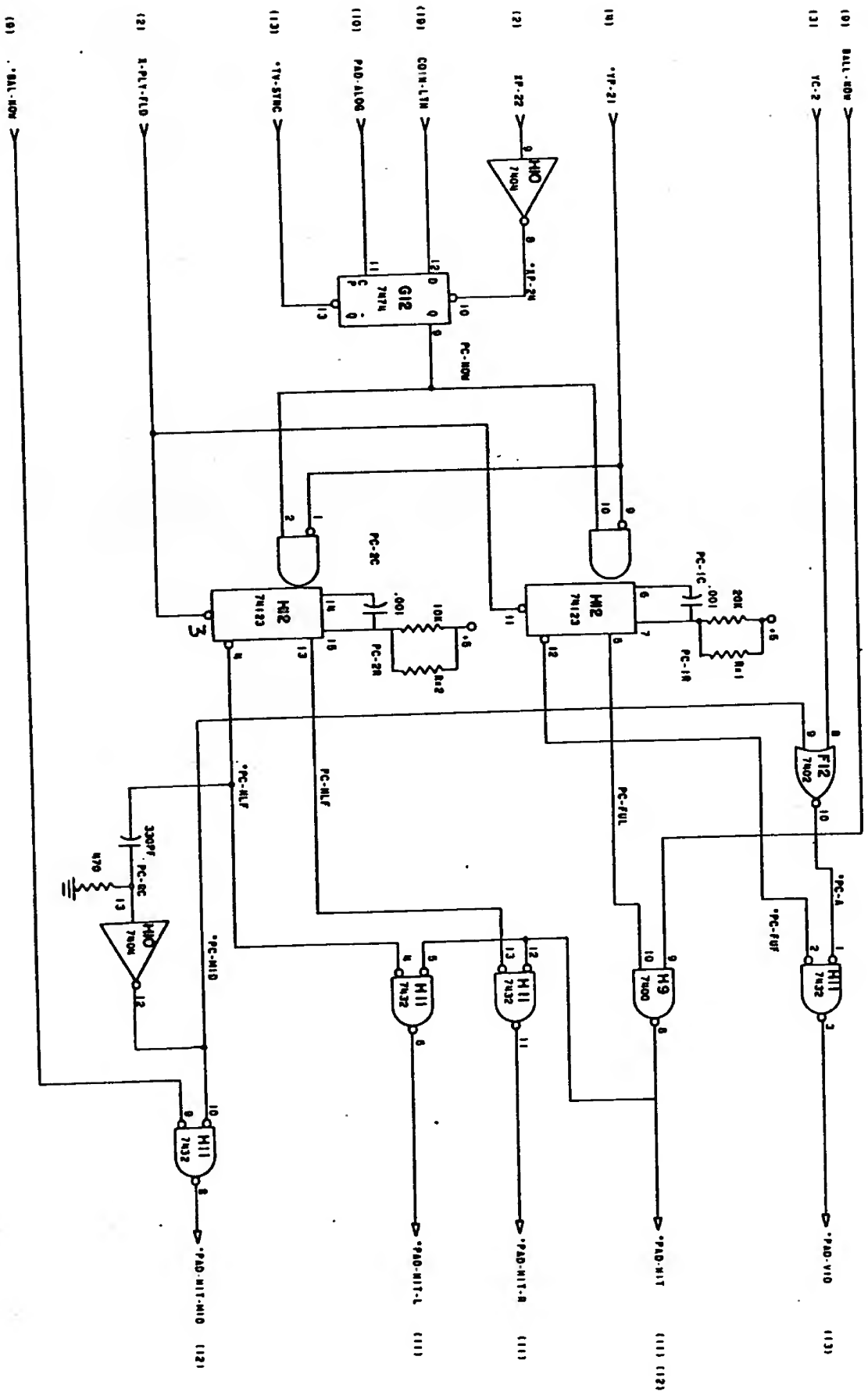
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14







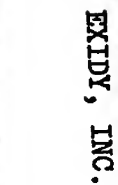
**EXIDY, INC.**

## TV PINBALL

## PADDLE CONTROL

PAGE

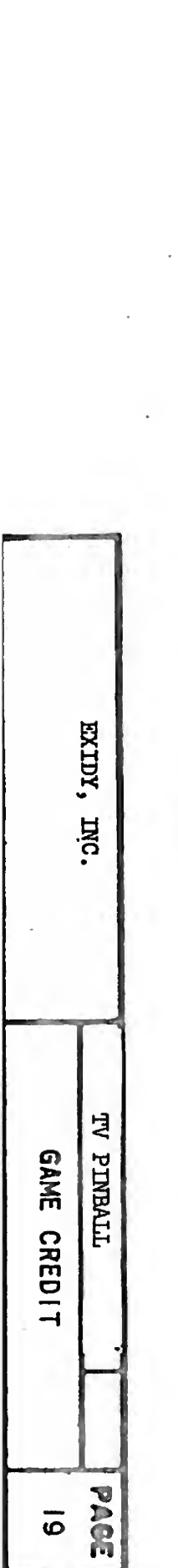
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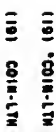
TV PINBALL  
CREDIT CO  
RELAY CORP

**CREDIT CONTROL  
RELAY CONTROL**

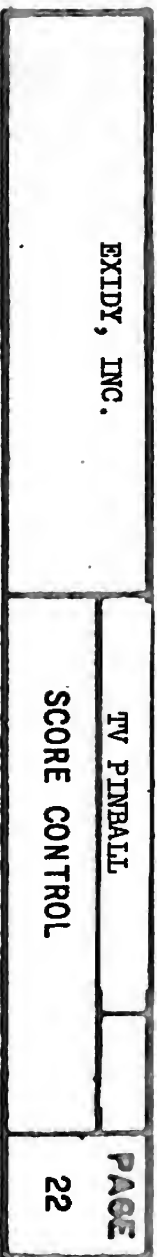


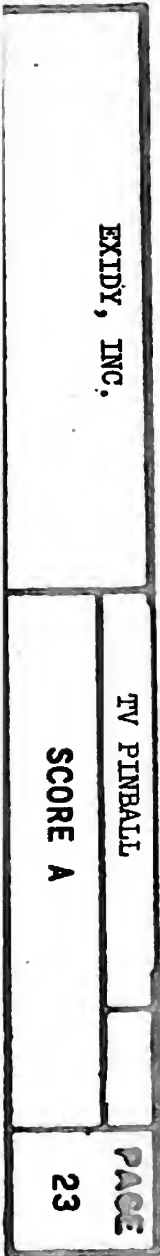




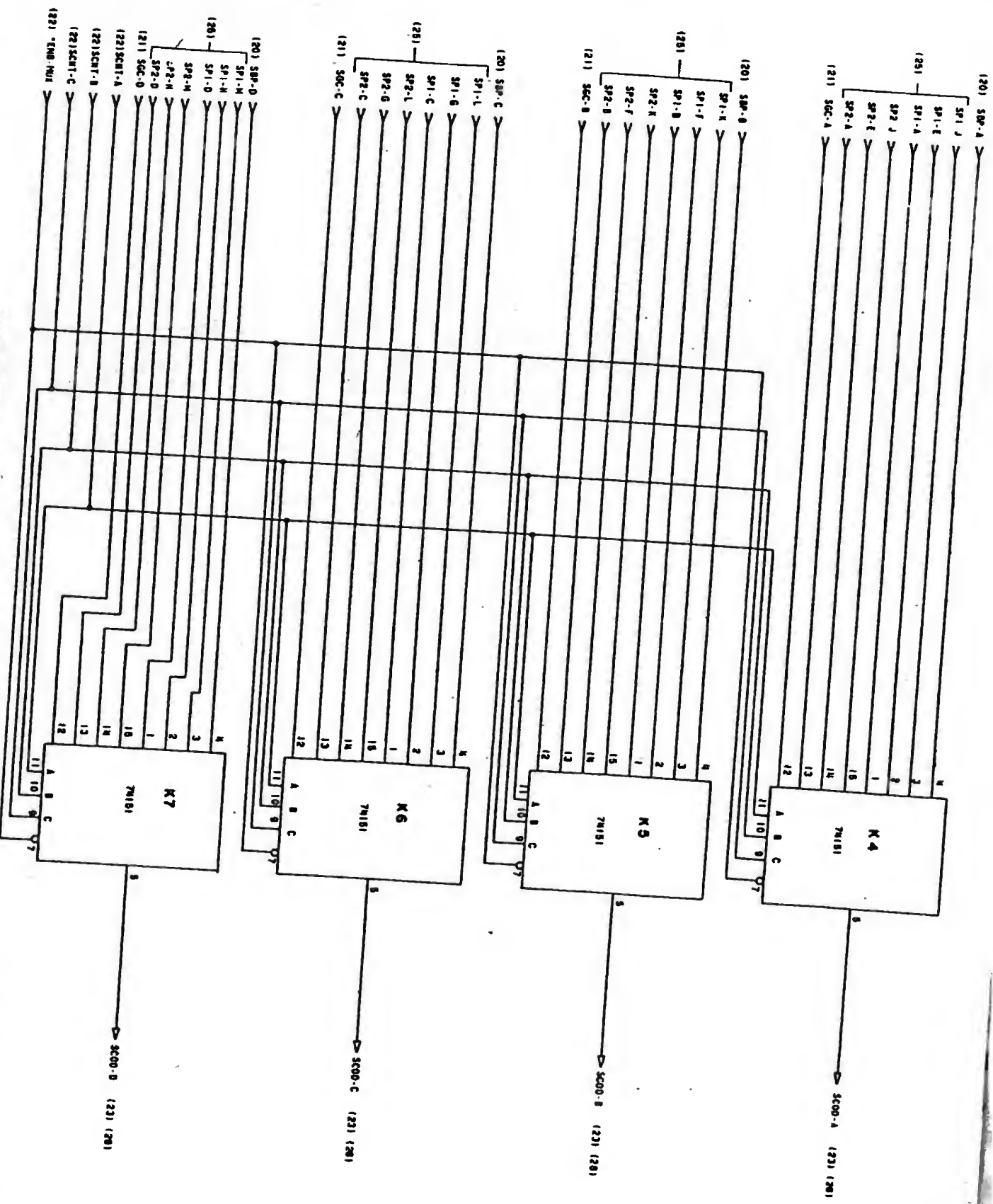


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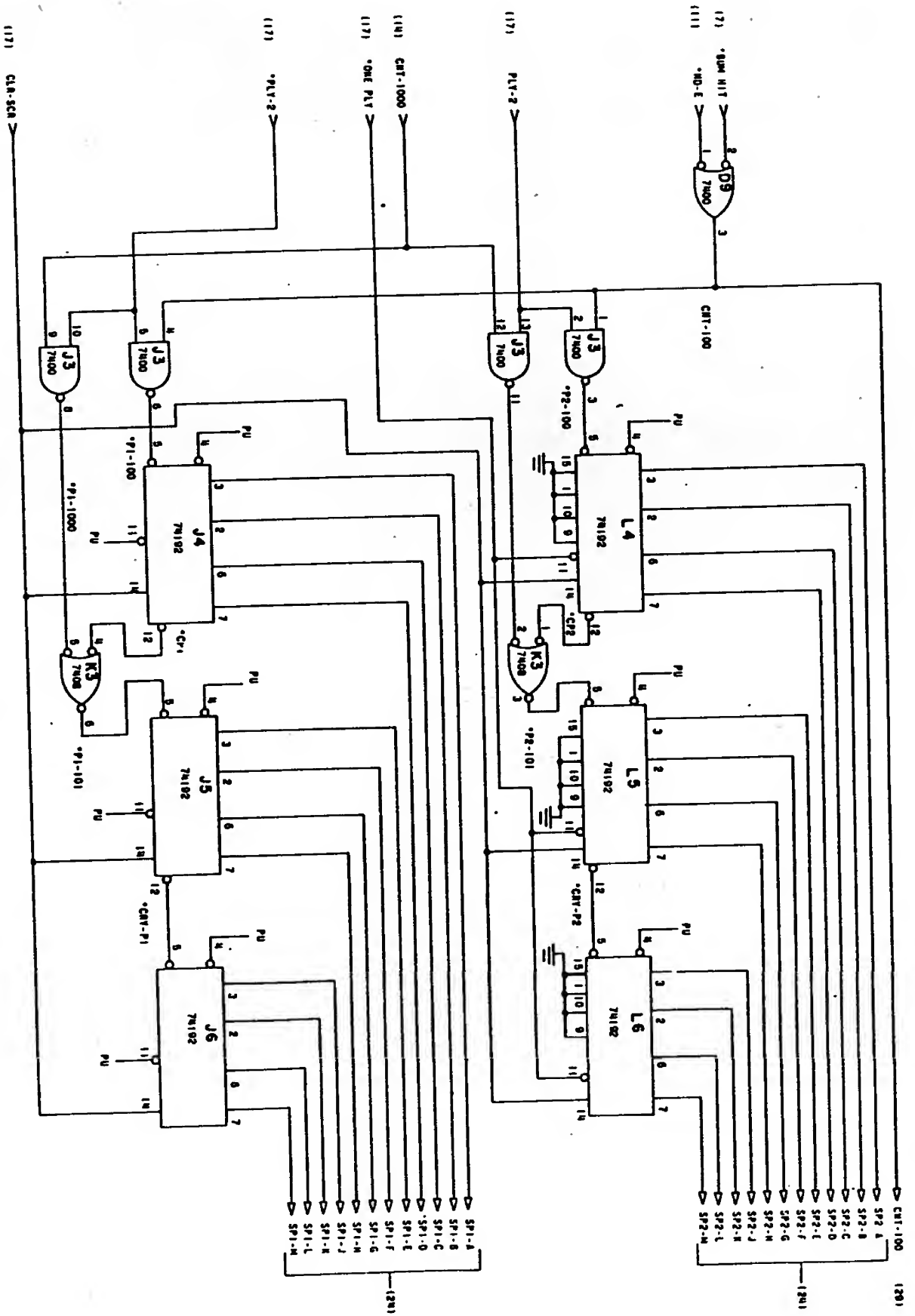
EXIDY, INC.

TV PINBALL

SCORE B

PAGE

24



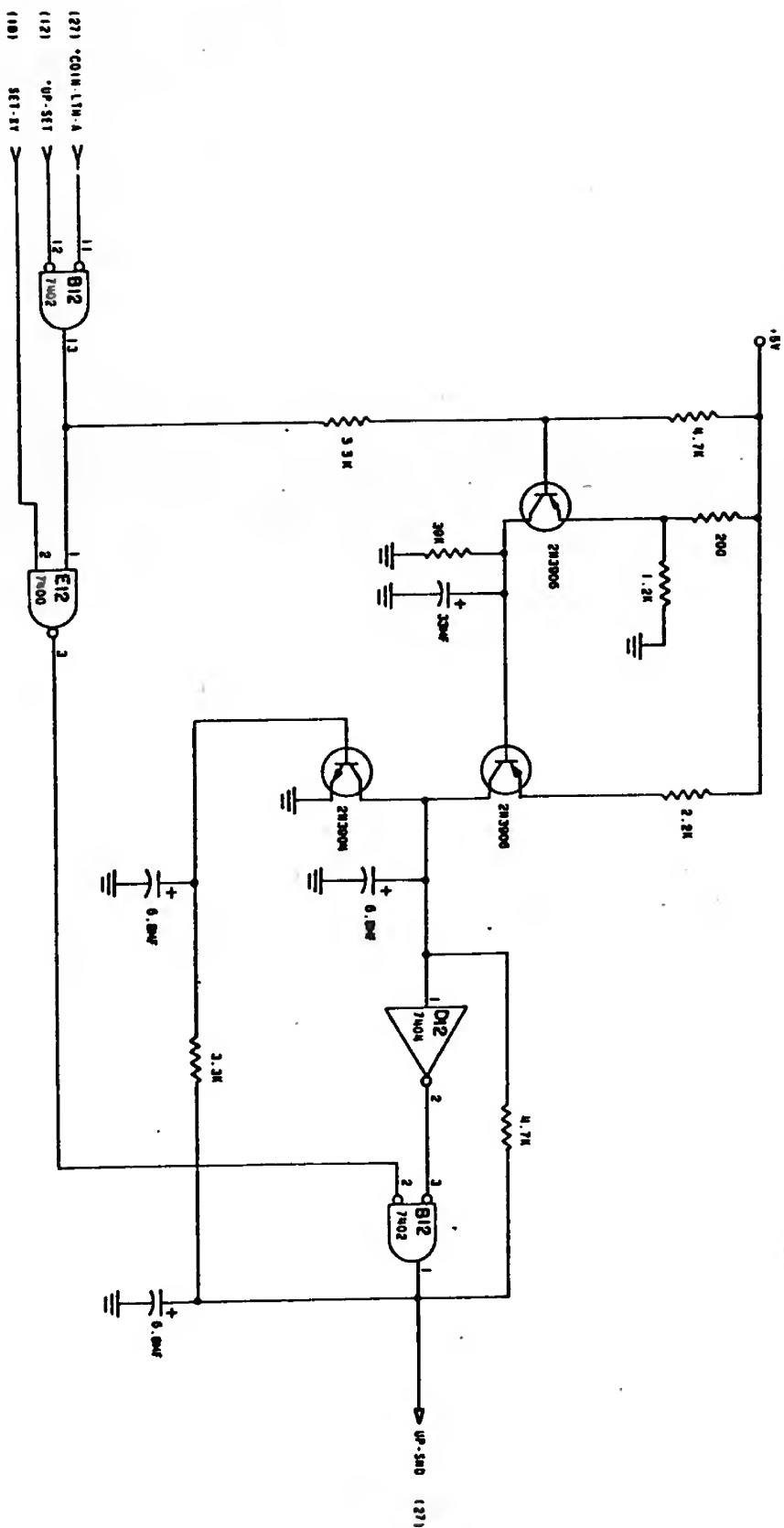
EXIDY, INC.

TV PINBALL

SCORE C

PAGE

25



EXCIDY, INC.

TV PINBALL

UP SOUND

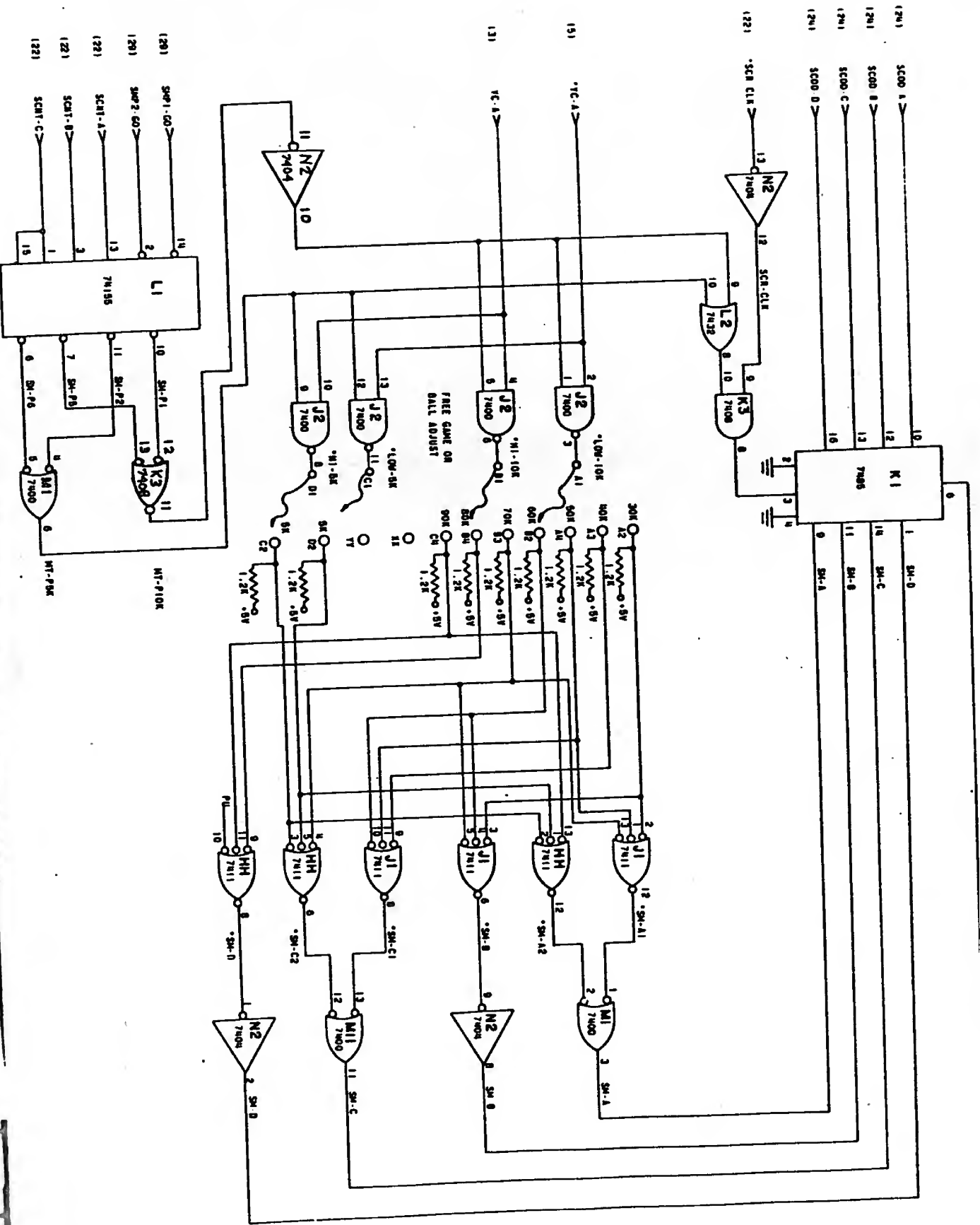
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**EXIDY, INC.**

**TV PINBALL**



EXIDY, INC.

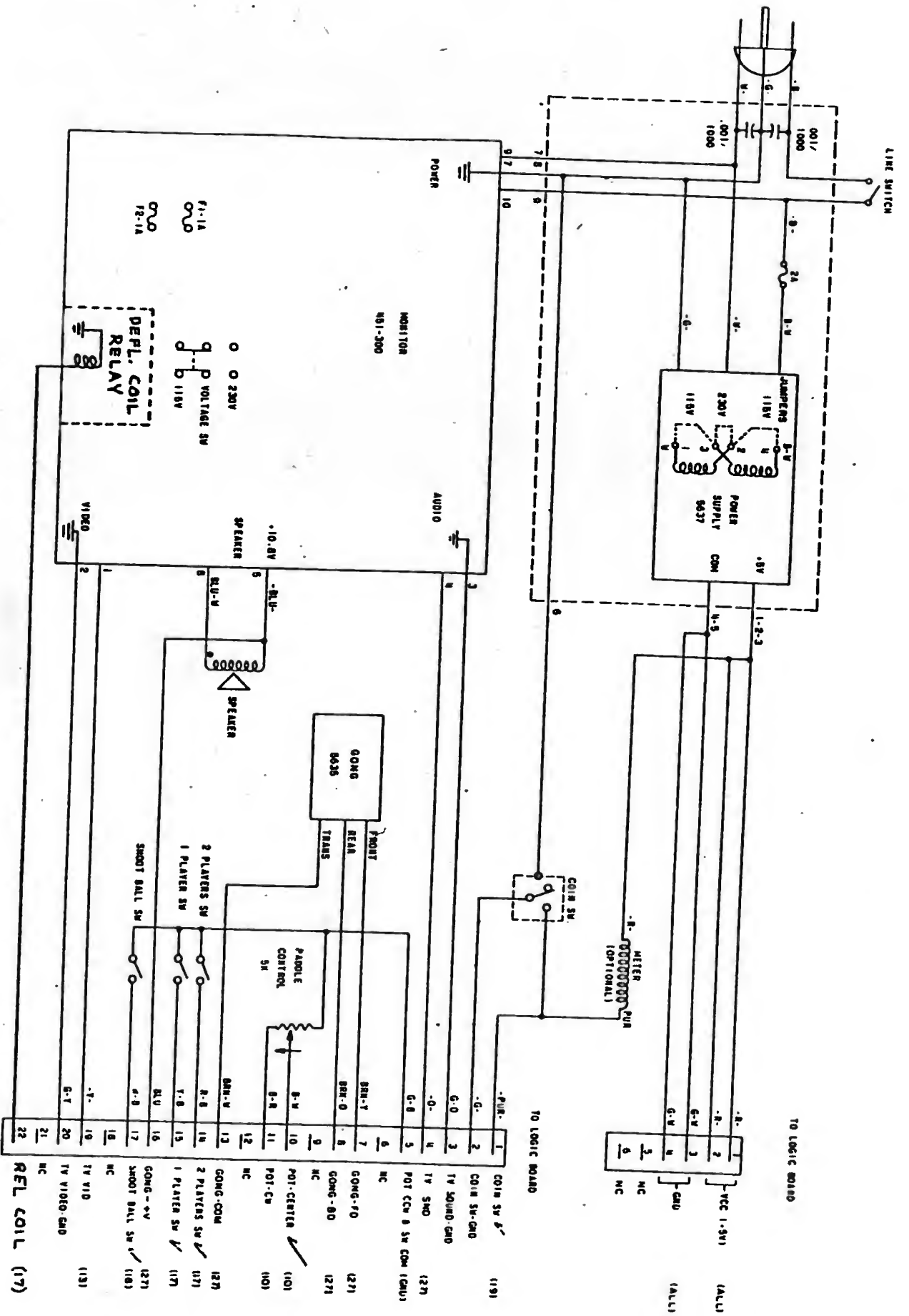
TV PINBALL

SCORE MATCH



## TV PINBALL

## SCORE MATCH A



EXIDY, INC.

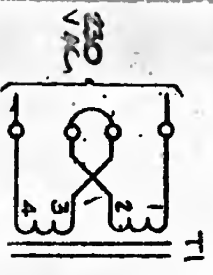
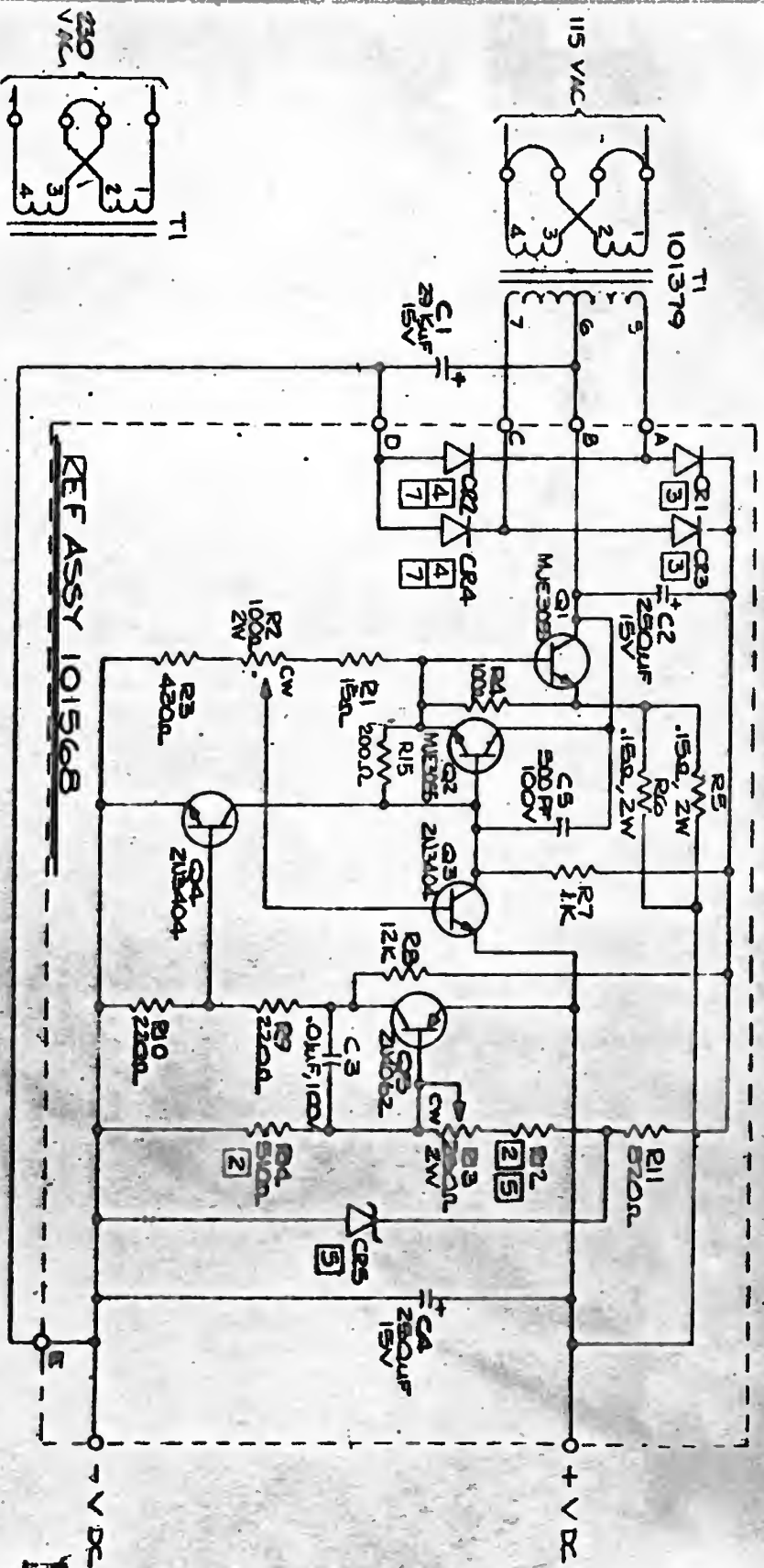
TV PINBALL

CABINET SCHEMATIC

PAGE

30

REV	BY	DESCRIPTION	DATE
A		RELEASE, REC PRODUCTION	1/1/75
B		INCORPORATED ECO 10022	1/1/75
C		INCORPORATED ECO 10069	1/1/75
D		INCORPORATED ECO 10066	1/1/75



- 7 ALTERNATE P/N 21PT10, INTL RECORDER
6. REFERENCE ASSY 101568 & 101569
5. SELECT CR5 1N4735A, 5.9-6.09V, R12, 52k, CR5 1N4735A, 5.9-6.09V, R12, 100k, CR5 1N4735A, 5.9-6.09V, R12, 120k
4. PART NO. 6051, INTERNATIONAL RECORDER
3. PART NO. 115391, WESTINGHOUSE
2. FILM RESISTOR, TOL ± 2%, 1/2W
1. CARBOJ RES STIC, TOL ± 5%, 1/2W

REV	BY	DESCRIPTION	DATE
1		RELEASE, REC PRODUCTION	1/1/75
2		INCORPORATED ECO 10022	1/1/75
3		INCORPORATED ECO 10069	1/1/75
4		INCORPORATED ECO 10066	1/1/75

QTY	DESCRIPTION	PART NO.	DATE
1	SCHEMATIC POWER SUPPLY	101567	APR 9 1975
1	MODEL 40-5	50A	

STANDARD POWER, INC.  
Orange, California

SCHEMATIC POWER SUPPLY  
MODEL 40-5 50A

RECEIVED  
APR 14 1975  
RSC ELECTRONICS

INTO ONLY  
MAY BE REVERSED  
WITHOUT NOTICE

APR 9 1975



# EXIDY, INC.

166 San Lazaro Street  
Sunnyvale, California 94086  
(408) 733-1104

T V P I N B A L L

## B A S I C I N F O R M A T I O N

### I. ACCESS TO MACHINE

- A. Remove two 3/8 bolts to open table top (inside front door).
  - 1. A board located at the top of the picture tube can be used to secure the top in an upward position.
- B. The monitor can be removed by pulling upward on the monitor brackets.
  - 1. The harness has been designed to allow the monitor to travel the length of its guide, but only a few inches beyond this point.

### II. GENERAL MAINTENANCE

- A. If the monitor screen becomes hazy or cloudy, Windex can be used to clean it.
  - 1. Rub lightly when cleaning color overlay; paint can be damaged if too much pressure is applied.
- B. To check power supply voltage, do so with unit powered and PC board under load. Pins 1 (positive) and 3 (negative) of 6 pin connector can be utilized to measure voltage (voltage should be 5.2 V DC).
  - 1. If voltage is under 5.2 V DC, adjustment at the power supply is possible using the adjustment pot (clockwise to increase volts).
  - 2. If voltage will not attain 5.2 V, the power supply should be replaced.
- C. The relay assembly is located at the rear of the monitor's chassis. Characteristic problems connected with relay malfunctions are:  
(1.) Picture will not flip over to Player 2; and (2.) Shoot switch or pot control problems. (Unit should not be powered when removing relay.)
- D. The PC board can be removed by disconnecting the card edge connectors and pulling upward until board is clear of guide.
  - 1. Numbers on the PC board correspond to numbers on the card edge connectors to insure proper connections.
  - 2. Changes can be made on the PC board to change various characteristics of the game. (See enclosed literature.)

## HOW TO SET UP YOUR TV PINBALL

Remove the LOGIC printed circuit card-- Notice the RED and GREEN patch cords.

Caution: This is a delicate instrument.

### GAME

Plug wire marked GAM into pins • 1/25¢ • 3/50¢ • 2/25¢

### BALL

Plug wire marked BALL into pins • 3 or • 5 Balls per player.

### FREE

Plug wire marked FREE into pins • BALL or • GAME  
FOR AN EXTRA BALL OR AN EXTRA GAME AS SET UP FROM SCORE LEVELS

### SCORE

1 Game Credit	POINTS	2 Game Credit
A1 to A2 & C1 to XX	30,000	B1 to A2 & D1 to D2
A1 to A2 & C1 to C2	35,000	B1 to A3 & D1 to YY
A1 to A3 & C1 to XX	40,000	B1 to A3 & D1 to D2
A1 to A3 & C1 to C2	45,000	B1 to A4 & D1 to YY
A1 to A4 & C1 to XX	50,000	B1 to A4 & D1 to D2
A1 to A4 & C1 to C2	55,000	B1 to B2 & D1 to YY
A1 to B2 & C1 to XX	60,000	B1 to B2 & D1 to D2
A1 to B2 & C1 to C2	65,000	B1 to B3 & D1 to YY
A1 to B3 & C1 to XX	70,000	B1 to B3 & D1 to D2
A1 to B3 & C1 to C2	75,000	B1 to B4 & D1 to YY
A1 to B4 & C1 to XX	80,000	B1 to B4 & D1 to D2
A1 to B4 & C1 to C2	85,000	B1 to C4 & D1 to YY
A1 to C4 & C1 to XX	90,000	B1 to C4 & D1 to D2
A1 to C4 & C1 to C2	95,000	

CHANGE GAME CARD ON FRONT PANEL FOR NEW FORMAT

USE STICK-ON LABEL PROVIDED

### BELL / CHIME

A slide switch located near main connector-- This disables the Chimes for an audio sound.

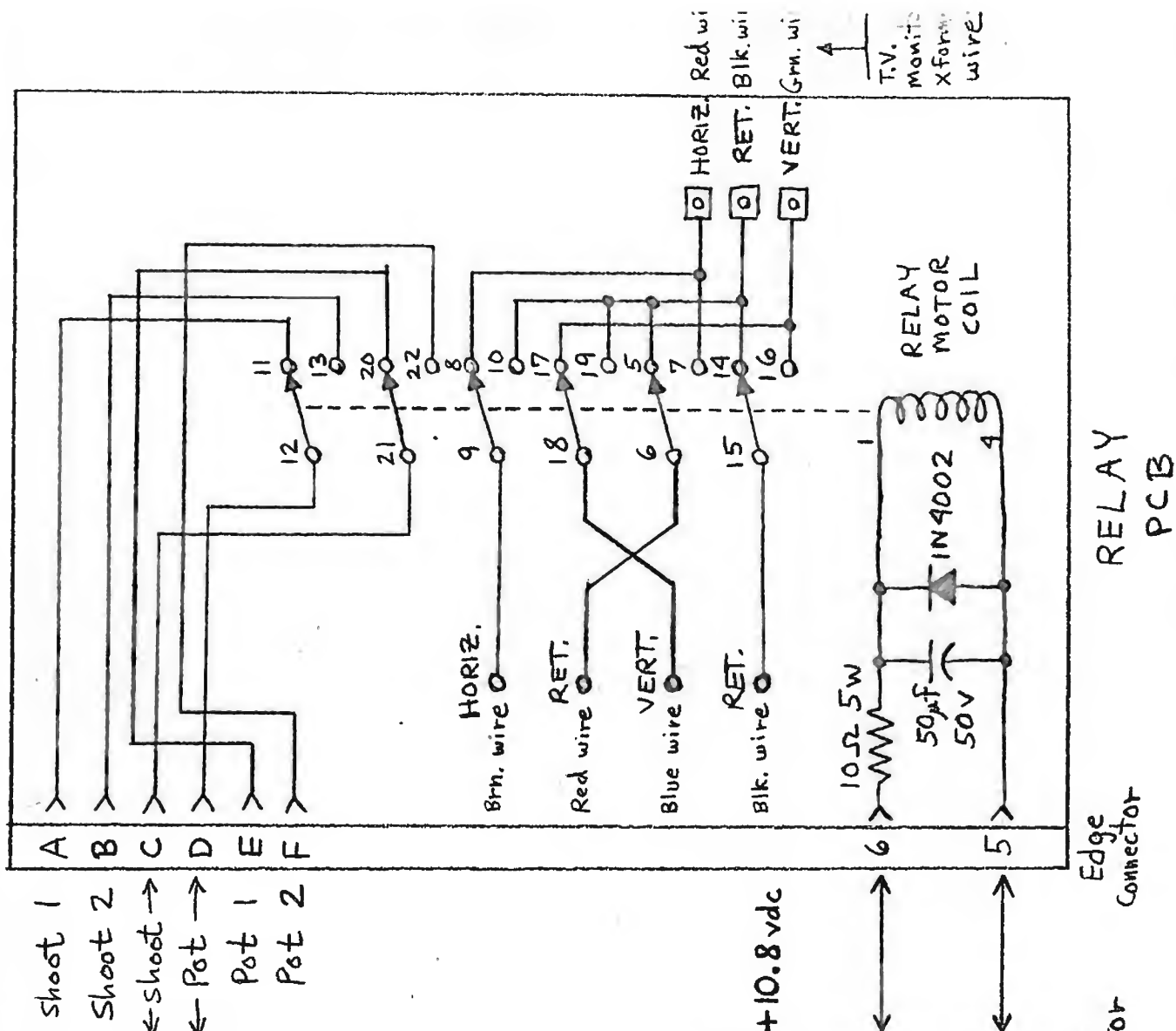
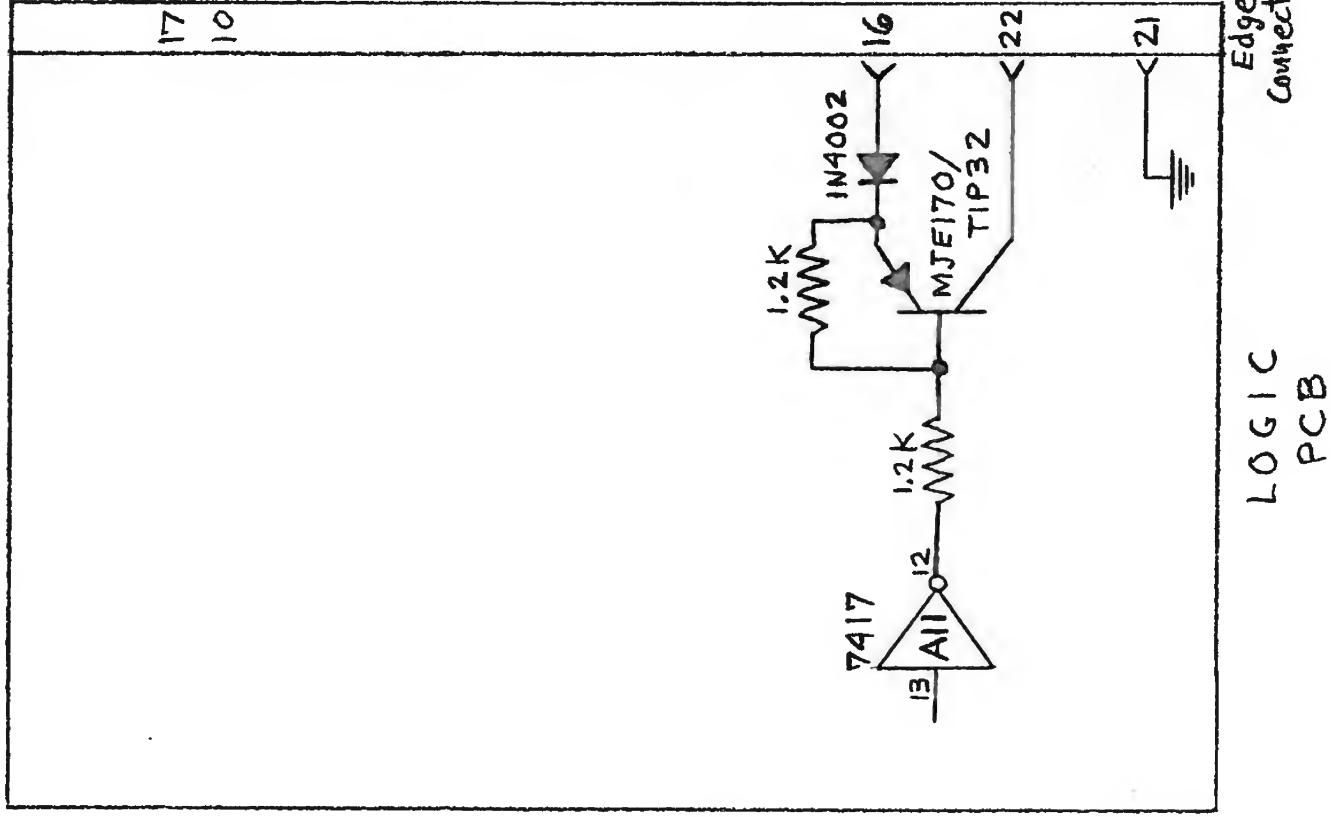
## TVPB Adj. Procedure

1. Set voltage at connection to +5V
2. Adj. paddle size with game in idle mode  
(Next to 20K; about a 240K)  
Sheet 16, RX1, Near Chip H12  
Paddle must have small space on right side before bumper  
The smaller R used, the larger the space
3. Adj. paddle notch with game in select mode  
(Next to 10 K; about a 30K)  
Sheet 16, RX2, Near Chip H12  
The smaller R used, the more notch goes to left
4. Moving target Adj. (Top left corner Sheet 15)
  - a. Set scope .5 SEC, INT -, Level -
  - b. Scope probe on 1.2K next to 400 UF cap
  - c. Adj. 2.7K first (Next to 2 diodes right; need about 30K in parallel)
  - d. Adj. for 2.5 sec (target moves left to right)
  - e. Adj. 1.5K (Next to 2 diodes left; need about 5.1K in parallel)
5. Check adj. after soldering in resistors
6. Ball mode change--place game in idle mode
  - a. Ground 3.3K resistor in random OSC (Near A12 Chip)
  - b. Mode change when ball hits a pocket should be frequent.  
If not add a 240K accross 39K resistor (Sector A10, Sheet 11 & 12)
7. Speed up time
  - a. Speed up time on odd balls 18 sec.
  - b. Speed up time on even balls 36 sec.
  - c. Place a .1 UF cap accross .001 UF on 20K Chip H12
  - d. Put scope on G1-7
  - e. Check time required for ball speed up
  - f. Observe that the ball does speed up when the level of G1-7 goes high
8. Bell switch
  - a. Bell switch in left position the bell should ring  
Back door for bumpers  
Front door for M-T & Wipe Out
  - b. Bell switch in right position--credit sound  
should replace bell sound

9. Place in player 2 select mode
  - a. Place game coin select on 1/25¢
  - b. Press credit switch, causing one credit to show on screen
  - c. Press 1 player then 2 players; only 1 player should show
  - d. Press credit switch; 2 credits will show
  - e. Press one player then 2 players; both should show
  - f. Repeat for all credits through 19
10. Game credit per 25¢
  - a. Place game coin select on 2/25¢; should give credit when credit button is pushed and when credit button is released
  - b. Place game coin select on 3/50¢; set credit on zero--reset DC. First 25¢ should give 1 credit and 2 25¢ should give 2 credits. Select 2 players mode and press shoot; credits should drop from 3 to 1
11. Ball amount
  - a. Set ball on 3; play game and observe that game ends on 3 balls
  - b. Set ball on 5; play game and observe that game ends on 5 balls
12. 2 Player switch
  - a. Place credit on 2
  - b. Press 2 Player
  - c. Shoot ball; credits should go to zero; when ball is lost and ready for new serve, 2 player should light
13. Score match test
  - a. Select 2 players
  - b. Place score patch on 35,000 and 45,000; place free game patch on GAM
  - c. Ground G3-8; a credit should be given at 35,000 and 45,000
  - d. Move score patch to 55,000 and 65,000 and observe credits being given
  - e. Move score patch to 75,000 and 85,000, then 95,000 and observe credits being given
  - f. Place score patch on 40,000 and 80,000 with both 5,000 patches free
  - g. Notice game credit at 40,000 and 80,000
  - h. Change play to second player score; place lower 5,000 wire on C2 and upper 5,000 wire on YY
  - i. Ground G3-8; notice credit for 45,000 and 80,000

14. Free ball
  - a. Place ball game selector on free ball
  - b. Set score select on 35,000 and 45,000
  - c. Set play for 2 players
  - d. Ground G3-8 until score of player 1 reads greater than 45,000
  - e. Let ball play until player 2 is on
  - f. Ground G3-8 until score of player 2 is greater than 45,000
  - g. Play game through; game should not end until 9 balls have been served
15. Up sound
  - a. Check up sound for clarity and not a broken up quality
16. Score reading
  - a. Score 100 points for pocket or bumper
  - b. Score 2000 for MT hit
  - c. Score 8000 for Wipe-out
  - d. Max credits is 19
17. Reset on end of ball
  - a. Set the ball in action and allow it to erase 2 or 3 bumpers. As the ball leaves the screen hold down the shoot button. Screen should reset to 16 bumpers and upon release of button ball should move from reset position. With game over screen should go into idle mode, if shoot button is held down
18. Game play
  - a. Play game and see if it generally plays as it should
  - b. Check for corner closing
  - c. Check for random vector change
19. Leave game on 3/50¢, 5 balls, free-game score of 45,000 and 80,000
20. Check that the board works OK from 4.5V to 5.5V.

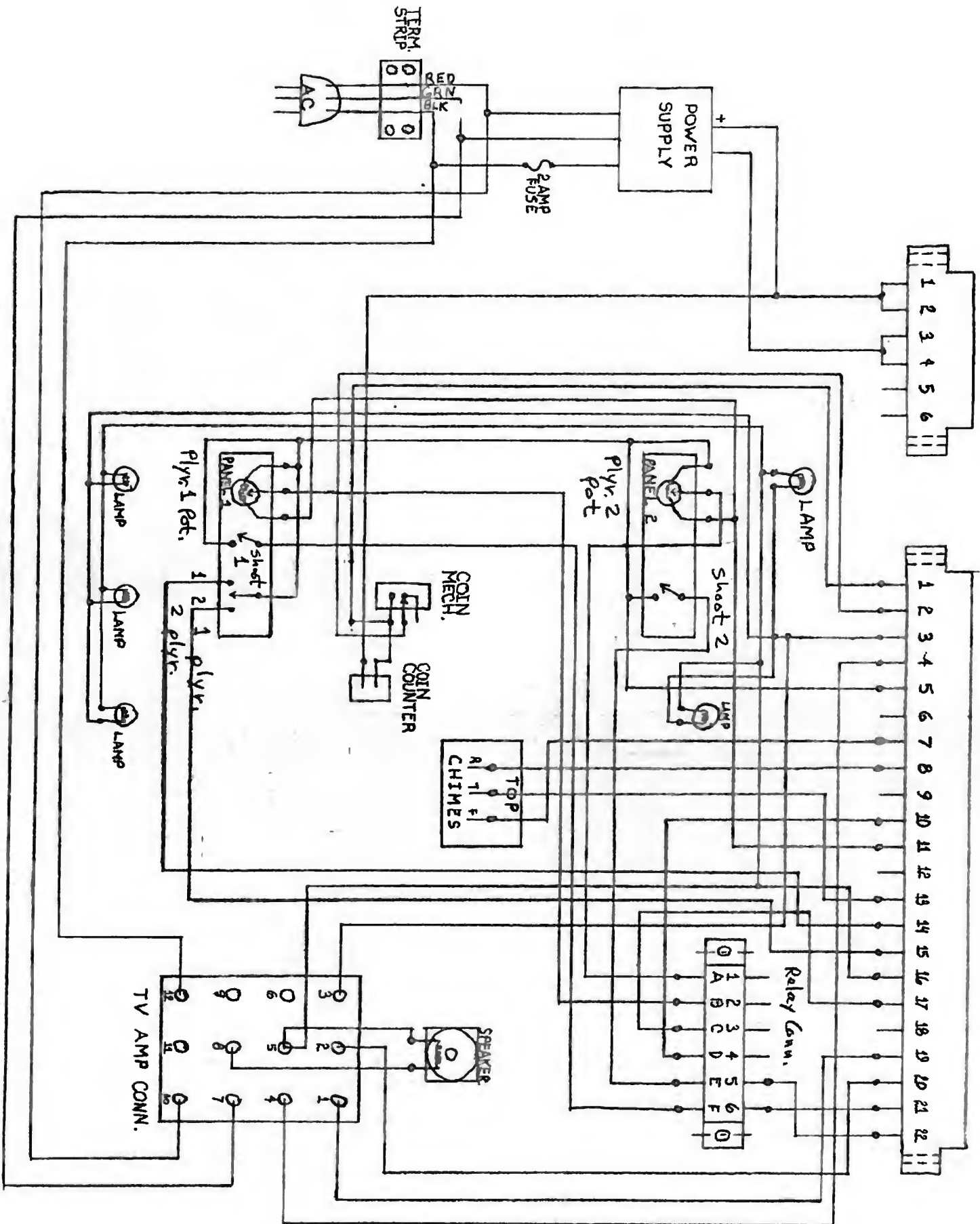
T.V. PINBALL



EXIDY INC.

*L.W.A.*

# 1 VTB (Table Model) CABINET WIRING DIAGRAM



# EXIDY, INC.

166 San Lazaro Street  
Sunnyvale, California 94086  
(408) 733-1104

## TV PB

### ANTI - STATIC MODIFICATION

Change the following 330 pf caps. to .01 uf ceramic caps:

1. Cap below F11 (From F11-13 to F11-4)
2. Cap below E11 (From E12-6 to F11-1)
3. 3 caps -- location M10 (From L10-10 to L10-13)  
(From L10-7 to L10-11)  
(From K11-9 to L10-9)
4. Cap below K8 (From J9-9 to J8-12)
5. Cap below B4 (From A4-9 to A3-2)
6. Cap below A4 (From A4-5 to A3-3)

Add:

#### .01 uf Cap

1. From F11-8 to ground (trace @ F11-7)  
(Connect to area of trace adjacent to F11-8)
2. From K8-4 to K8-7 (Ground pin)
3. From J8-11 to ground (trace @ J8-8)  
(Connect to area of trace adjacent to J8-9)
4. From J8-5 to J8-8 (Ground pin)
5. From J8-4 to ground (trace @ J8-8)  
(Same point as #4 above)
6. From M4-5 to M4-8 (Ground pin)

#### .001 uf Cap

1. From F11-4 to F11-7 (Ground pin)



# EXIDY, INC.

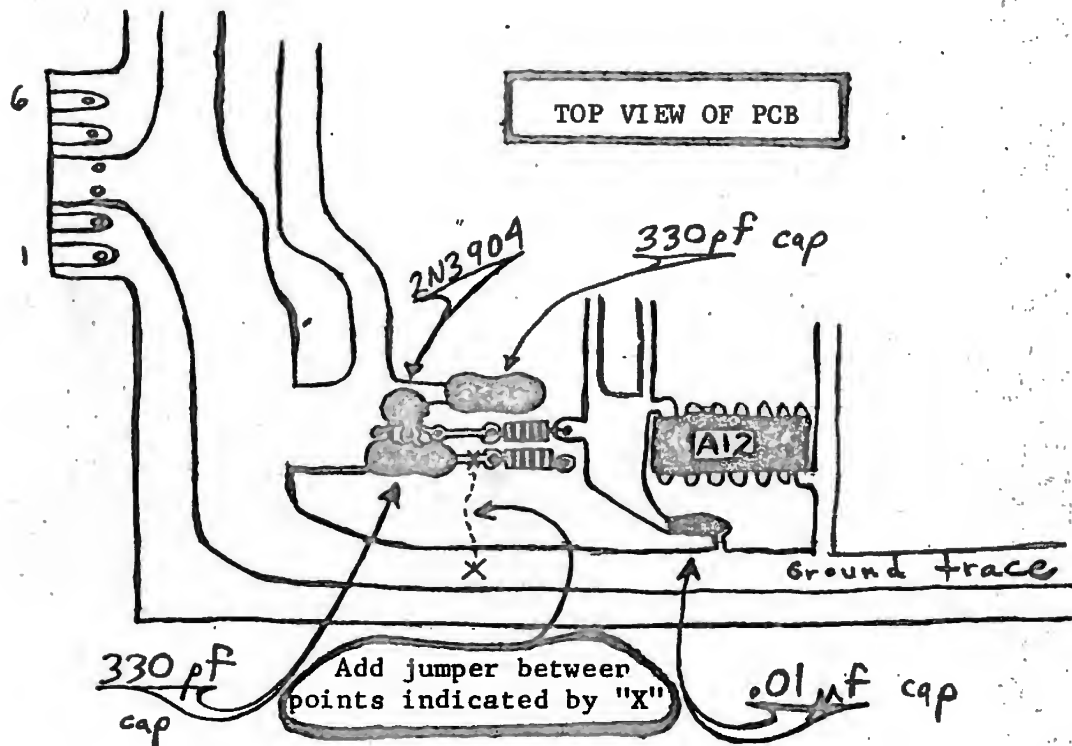
166 San Lazaro Street  
Sunnyvale, California 94086  
(408) 733-1104

July 25, 1975

Dear Customer:

The Exidy TV Pinball can be modified to increase your earning. Shown below is a simple one jumper modification which will change the play of the game slightly.

- A.) Makes ball change speed and direction more often thus making the game more exciting to play.



If your picture looks hazy or cloudly remove the T.V. set and wipe it off with Windex--your unit will look like new. This will take about five minutes.

Should you have any questions, please feel free to contact me at your convenience.

Sincerely,

Exidy, Inc.

H. R. Kauffman, President

## DRAWING ABBREVIATIONS

### Sheet 1

1. OSC-1, 2, 3, & 4
2. Bit Clk
3. SLC
4. XCI, 2 & 3
5. XC, A, B, C, D,  
& E
6. X Clk
7. Set-X-Up
8. Set-X-Down
9. TOG-X
10. VGX-Up
11. VGX-DW
12. VGX-CMP
13. VGX-CUP
14. VGX-CDW
15. SET-XY
16. XA-XB
17. VGX-1 through E

Oscillator circuit

4 MHZ clock

Scan line clock

X count 1, 2, & 3

X count A, B, C, D, & E

X clock

Set X to count up

Set X to count down

Toggle X count F/F

Vector generator X up

Vector generator X down

Vector generator compare

Vector generator carry up

Vector generator carry down

Set X and Y count

X count A equals X count B

Vector generator 1 through E

### Sheet 2

18. X-PLY-FLD
19. XP-0 through 28
20. XPD-F

X playfield

X position 0 through 28

X position data - F

### Sheet 3

21. Y-CLK
22. Set-Y-Dwn
23. Set-Y-Up
24. TOG-Y
25. VGY-CRY
26. Y 256
27. Y 262
28. YC-1 through F
29. YA-YB
30. VGY-CMP
31. VGY-ENB
32. VGY-UP
33. VGY-DW
34. VGY-1 through E
35. VGY-CUP
36. VGY-CDP

Y clock

Set-Y-down

Set-Y-up

Toggle Y

Vector generator Y carry

Y count 256

Y count 262

Y count 1 through F

Y count A equals Y count B

Vector generator Y compare

Vector generator Y enable

Vector generator Y count up

Vector generator Y count down

Vector generator 1 through E

Vector generator compare up

Vector generator compare down

Sheet 4

- 37. YPD-A through G
- 38. Y-END
- 39. YP-21
- 40. CLR-BUM-CNT
- 41. YP 0

Y position data A through G  
End of Y display  
Y position 21  
Clear bumper counter  
Y position 0

Sheet 5

- 42. BG-SHF
- 43. CLK-BGS
- 44. CLR-BGS
- 45. YP-MT
- 46. Y-ENB

Bumper generator shift  
Clock bumper generator shift  
Clear bumper generator shift  
Y position moving target  
Y - enable

Sheet 6

- 47. BAL-NOW
- 48. RAM-SET
- 49. LFT-PKT-HIT
- 50. RHT-PKT-HIT
- 51. LFT-EDG-VID
- 52. RHT-EDG-VID
- 53. LFT-EDG-HIT
- 54. RHT-EDG-HIT
- 55. BGS-CLK
- 56. BG-SHF
- 57. BG-Y1
- 58. BG-Y2

Ball now  
Random set  
Left pocket hit  
Right pocket hit  
Left edge video  
Right edge video  
Left edge hit  
Right edge hit  
Bumper generator shift clock  
Bumper generator shift  
Bumper generator Y count 1  
Bumper generator Y count 2

Sheet 7

- 59. ZRO-BUM
- 60. BG-R
- 61. BUM-VID

Zero bumper displayed  
Bumper generator ready  
Bumper video

Sheet 8

- 62. TD-A through S
- 63. SCR-ZENB
- 64. TOP-VID
- 65. TOP-PKT-HIT
- 66. TOP-EGD-HIT
- 67. V-SYNC
- 68. CLK-MOD

Top display - A through S  
Score Z enable  
Top video  
Top pocket hit  
Top edge hit  
Vertical synchronizing  
Clock mode

Sheet 9

- 69. BAL-VID
- 70. BC-A through J
- 71. BC-BALN
- 72. BC-STP
- 73. BC-SCLR

Ball video  
Ball control A through J  
Ball control ball now  
Ball control stop  
Ball control stop clear

Sheet 10

74. H-SYNC-RAMP

Horizontal synchronizing ramp

75. PAD-ALOG

Paddle analog

Sheet 11

76. PAD-HIT

Paddle hit

77. HD-P

Hit decode - P

78. HD-A through Y

Hit decode A through Y

79. MT-LR

Moving target left right

80. COIN-LTH

Coin latch

81. EDG-SND

Edge sound

82. FST-CLK

Fast clock

83. SPD-UP

Speed up

84. SU-CLK

Speed up clock

Sheet 12

85. CNT-1KON

Count 1000 on

86. PAD-HIT-MID

Paddle hit middle

87. MC-A through E

Mode control A through E

88. MOD 1 through 2

Mode 1 through 2

89. RAM-SET

Random set

90. RAM-OSC

Random oscillator

91. UP SET

Up ball set

Sheet 13

92. SCR-VID

Score video

93. MT-VID

Moving target video

94. PAD-VID

Paddle video

95. MIX-VID-A, B, C

TV video

Sheet 14

97. HLF-BLK

One half blink

98. CNT-ZBUM

Count zero bumper

99. CNT-1000

Count 1000

Sheet 15

100. MT-HIT

Moving target hit

101. MT-SET

Moving target set

102. MT-RST

Moving target reset

Sheet 16

103. PC-FUL

Paddle control full

104. PC-HLF

Paddle control half

105. PC-MID

Paddle control middle

106. PC-RC

Paddle control resistor capacitor

## Sheet 17

107. CC-SER	Credit control serve
108. GME-OVR	Game over
109. SER-1 PLY	Set 1 player
110. SER-2 PLY	Set 2 players
111. GO-1 PLY	Go 1 player
112. GO-2 PLY	Go 2 players
113. CLR 1 PLY	Clear 1 player
114. ONE PLY	One player
115. TWO PLY	Two players
116. PLY - 2	Player 2 up
117. CLR-SCR	Clear score
118. CDD-12	Credit 1 and 2
119. CDT-NOW	Credit now
120. CC-A, B, C	Credit control A, B, C

## Sheet 18

121. COIN-SMT	Coin schmitt
122. SER-BAL	Serve ball
123. SER-SMT	Serve schmitt
124. ON-SET-XY	Set XY FF on

## Sheet 19

125. ZRO CDT	Zero credit
126. FRE CDT	Free credit
127. EOG	End of game
128. UP-CDT	Up credit count
129. POR	Power on reset

## Sheet 20

130. BC-1, 2, 3, 4	Ball count 1, 2, 3, 4
131. CMP-EOG	Compare end of game
132. STP-BC	Stop ball count
133. CLK-BC	Clock ball count

## Sheet 21

134. SCR PH2	Score phase 2
135. SGC-A, B, C, D	Score game count-A, B, C, D
136. GC-CRY	Game count-carry
137. GC-BRW	Game count borrow
138. GC-set	Game count set

## Sheet 22

139. UL-A through E	Under line A through E
140. SCR-PH1	Score phase 1
141. SCR-XP	Score X position
142. SCR-GO	Score go
143. SCR-CLK	Score clock

Sheet 22 cont.

144. SCNT A, B, C

Score count A, B, C

145. ENB-MUX

Enable multiplexer

146. SCR-ENB

Score enable

147. UL-NOW

Under line now

Sheet 23

148. SCRA-A through G

Score A-A through G

149. SCRA-I through 5

Score A-I through 5

150. ENB-SEG

Enable segment

Sheet 24

151. SOCD-A, B, C, D

Score data A, B, C, D

Sheet 25

152. SP2-A through M

Score player 2 - A through M

153. P2-100

Player 2 count 100

154. P2-1000

Player 2 count 1000

155. SP1-A through M

Score player 1 - A through M

156. P1-100

Player 1 count 100

157. P1-1000

Player 1 count 1000

Sheet 26

158. UP-SND

Up sound

Sheet 27

159. GONG COM

Gong common

160. GONG FD

Gong front door

161. GONG BD

Gong back door

162. TV-SND

TV sound

Sheet 28

163. SMP1-GO

Score match player 1 go

164. SMP2-GO

Score match player 2 go

165. SMA, B, C, D

Score match A, B, C, D

166. LOW 10K

Lower 10,000 match point

167. HI-10K

Higher 10,000 match point

168. LOW-5K

Lower 5,000 match point

169. HI-5K

Higher 5,000 match point

170. SM-P1

Score match player 1

171. SM-P2

Score match player 2

172. SM-P5

Score match player 1 - 5 K

173. SM-P6

Score match player 1 - 6 K

Sheet 29

174. FRS-MTH

First match

175. GO-MTH

Go match

176. SMP1-GO

Score match player 1 - go